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The Treatment of Craniocerebral Injuries and Prevention of Anoxia

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SUMMARY

Even mild head injuries may cause cerebral swelling and vascular alterations, including vasoparalysis and increased vascular permeability. The severer the injury, the more pronounced these changes. They may cause death.

Maintenance of adequate oxygen supply to the brain is the most effectual means of preventing or reducing the severity of this secondary effect of cerebral trauma, and the preservation of a good respiratory exchange is therefore essential in a patient who is comatose as a result of a head injury.

The commonly employed measures such as an oral airway, suction and oxygen therapy may be tried first, but if the patient continues to have respiratory distress or cyanosis, an intratracheal tube should be employed for 24 hours; and then if there is no improvement, tracheotomy should be carried out. If the injury is severe, tracheotomy from the beginning may be a life-saving measure.

THE great majority of cases of injury to the cranium and its contents are dealt with by physicians not devoting their main interest to the special field of neurological surgery. To provide therapy based on sound physiologic principles and to recognize at an early stage the complications of acute head injuries which require surgical intervention, a clear understanding of the pathologic processes and alterations in physiologic factors that occur in patients with acute intracranial injury is essential.

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PATHOLOGIC PROCESSES IN CEREBRAL INJURY

Concussion: It is probable that loss of consciousness may be brought about in several ways. The comatose state may be associated with rapidly increasing intracranial pressure such as that caused by extradural and subdural hemorrhage. In such cases the fundamental mechanism is in all likelihood related to ischemic changes.[6] Transient disruption of consciousness without hemorrhage may be caused by severe jolt of the brain, as when the moving head suddenly strikes an immovable object or when the head is struck by a moving object. It is to injuries of this kind that the term "cerebral concussion" is applicable. There is an accumulating body of experimental evidence which indicates that in such cases a brief but pronounced rise in intracranial pressure may be the fundamental mechanism which initiates the alteration in consciousness.[4, 7] Furthermore, even though there may be no gross pathologic changes associated with injury of this kind, it has been shown that cerebral swelling occurs, the degree of which roughly corresponds to the severity of the concussion.[8] It is thus apparent that even in the mildest form of injury to the brain there is sufficient alteration in physiologic process to be of clinical importance.

Contusion and Laceration: These terms describe pathologic changes in the brain ranging from small petechial and perivascular hemorrhages to gross hemorrhagic lesions and disruption of brain tissue. Of importance from a therapeutic standpoint are associated changes in both the parenchyma and vascular structures of the brain. The vascular changes

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EDITORIAL

The A.M.A. Clinical Session

California will be signally honored next month, when the American Medical Association will hold its 1951 Clinical Session in Los Angeles. The meeting is scheduled for December 4 to 7, inclusive, and will be preceded by the annual Public Relations Conference, which will convene at noon on December 2 and continue through December 3.

Coming on the heels of the December 1-2 meeting of the C.M.A. House of Delegates meeting, the A.M.A. session should be particularly attractive to California physicians.

Interim sessions of the A.M.A. House of Delegates were started several years ago as a means of relieving the House of Delegates of the pressure resulting from twelve months' accumulation of business. As official business meetings the interim sessions tended to expedite the official work of the A.M.A. in a most satisfactory fashion. At the same time, these meetings were of a size which made it possible to arrange them in some of the nation's cities which could not house the huge annual sessions.

When it became apparent that the interim sessions could be held in cities such as St. Louis, Cleveland, Denver, Houston and Los Angeles, it was decided to add to the House of Delegates meetings some clinical sessions, scientific exhibits, technical exhibits and some of the other educational features of the large annual meeting. This has been done with great success, and the resulting meetings have been described as bringing the latest clinical information to all regions of the country which cannot ordinarily be served by the annual gathering.

In fixing the interim meeting in such cities as are listed above, the A.M.A. has wisely relied upon local physicians and institutions in drawing up the program. In this way the physicians in the meeting city have the opportunity of putting on the program for the benefit of their colleagues from other areas. It is evident that the profession in Los Angeles and environs will acquit itself nobly for the benefit of all other sections of the country.

Arrangements for the A.M.A. interim session have been handled through a number of committees appointed by the Los Angeles County Medical Association, and all advance appearances indicate that the entire session will be extremely well run. Los Angeles, honored for the first time with an A.M.A. meeting, has turned to the task with typical vigor and enthusiasm.

Here is a chance for California physicians to visit a full-fledged A.M.A. meeting in their own front yard. Such an opportunity comes seldom and should definitely be grasped.

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NOTICES AND REPORTS

C.M.A. Public Relations Service Available to County Societies

Based upon the simple, down-to-earth formula of "being good, doing good—and then telling the public about it," the much discussed, long planned and long awaited grass roots public relations program of the California Medical Association is now under way.

The plan, initiated by the Advisory Planning Committee,* and approved by C.M.A.'s Council, stresses two major points: the provision of 'round-the-clock medical service regardless of ability to pay, through the full use of existing local facilities and the establishment and activation of public service committee (fee committees or ethics committees) within the county medical societies, where patients may have a hearing and an answer to real or fancied complaints against a member of the profession.

Since all or parts of this program are already in effect in several of the county societies, it is C.M.A.'s hope that eventually the profession may tell all Californians—statewide—of its interest and accomplishments in their behalf.

Once this is done, C.M.A. officials point out, there can be no valid political demand for State Medicine.

The first objective, medical care for all—24 hours a day—requires the organized effort of the societies to see that every person, regardless of financial status, receives the best of treatment on a full-pay, part-pay or charity basis.

An objective analysis reveals that the first phase—the guarantee of medical care—is already being largely met through private physicians and county or other welfare facilities. In other words, all the doctors are, at the present time, caring for all the patients in their particular area regardless of the economic status of any particular individual. Once the program is properly organized, with each member of the profession playing his proportionate part, the story of the doctors' good deeds can be told to the public with complete assurance.

*The Advisory Planning Committee is composed of the following county medical society executive secretaries: Rollen Waterson, Alameda-Contra Costa; Frank Kihm, San Francisco; Robert Wood, Jr., San Mateo; Joseph Donovan, Santa Clara; Roy B. Jensen, Fresno; Vance Venables, Kern; Stanley Cochems, Los Angeles; William Tobitt, Orange; and Kenneth Young, San Diego, together with a representative of the Public Health League, a member of C.M.A.'s legal counsel and C.M.A.'s executive personnel.

ED CLANCY, *Director of Public Relations*

Perfection of the emergency call telephone service throughout the state in areas where this system is not in operation will meet a long recognized public need. At the same time it will quiet the cry of "not enough doctors" and help diminish the threat of the back-door approach of government control of medicine through federal subsidy of medical schools.

C.M.A. will provide the funds for a modest advertising campaign to tell of the availability of the emergency call service.

All advertising will be done under the name of the county society.

The second objective—the protection of the public against certain abuses such as unnecessary or incompetent procedures, excessive fees and unethical acts, imagined or real—will be realized through